

# Abbreviations and Acronyms

AADSF	advanced automated directional solidification furnace	DC-X	Delta Clipper Experiment
ADIS	anomaly detection and identification subsystem	DCAM	diffusion controlled crystallization apparatus for microgravity
AEDC	Arnold Engineering and Development Center	DOE	diffractive optical elements
AEOLUS	autonomous Earth orbiting lidar utility sensor	DOF	degree of freedom
AFIS	automated fluid interface system	DTA	differential thermal analysis
AITP	Aerospace Industry Technology Program	ECLSS	environmental control and life support system
AMI	analytical model improvement	EDIFIS	engine diagnostic filtering system
ARPA	Advanced Research Products Agency	EMA	electromechanical actuator
ARRT	Advanced Reusable Transportation Technology	EMI	electromagnetic interference
ASAL	Advanced Signal Analysis Library	ENA	energetic neutral atoms
ASPS	automated signal processing subsystem	EPDM	ethylene propylene diene monomer
ASTEX	Atlantic stratocumulus transition experiment	EPRI	Electric Power Research Institute
ASTP	Advanced Space Transportation Program	ERBS	Earth Radiation Budget Satellite
AT	advanced turbopump	EUV	extreme ultraviolet
ATM	Atmospheric Tether Mission	EVA	extravehicular activity
ATMS	analysis topographical mapping system	EXVM	experimental vector magnetograph
AXAF	Advanced X-Ray Astrophysics Facility	FCCC	framing convention on climate change
BATSE	burst and transient source experiment	FDM	fused deposition method
BET	beamed energy transportation	FM	frequency modulation
BLAST	beyond LEO advanced space transportation	FMLI	foam/multilayer insulation
BSMT	bearing seals and materials tester	FOV	field of view
C-STAR	conically-scanning two-look airborne radiometer	FPB	fuel preburner
C/SiC	carbon/silicon carbide	FSM	flight support motor
CADDMAS	computer assisted dynamic data monitoring and analysis system	FSW	friction stir welding
CAVE	computer applications and virtual environments	FTIR	fourier transform infrared
CBLISK	composite integrally bladed disk	FTTS	flight test telemetry system
CBM	common berthing mechanism	GCM	general circulation model
CCD	charged couple device	GEO	geosynchronous-Earth orbit
CCN	cloud condensation nuclei	GFFC	geophysical fluid flow cell
CDDF	Center Director's Discretionary Fund	GHCC	Global Hydrology and Climate Center
CER	cost estimating relationship	GOES	Geostationary Operational Environmental Satellite
CFD	computational fluid dynamics	GQE	generalized quadratic equation
CFM	cryogenic fluid management	GRO	Gamma-Ray Observatory
CGEL	Ground Control Experiment Laboratory	GSE	ground support equipment
CGF	crystal growth furnace	GUI	graphical user interface
CMC	ceramic matrix composite	HDFTP	high-pressure fuel turbopump
CoFlo	compressible flow	HEDS	Human Exploration and Development of Space
COTS	commercial off-the-shelf	HENA	high energetic neutral atom
CPU	central processing unit	HIRS	high-resolution infrared sounder
CW	continuous wave	HLR	Human Lunar Return
DBC	differential box mounting	HOE	holographic optical elements
		HRMA	high-resolution mirror assembly

HRST	Highly Reusable Space Transportation program	MMA	method of moving asymptotes
HST	Hubble Space Telescope	MMC	metal matrix composite
HTML	hypertext markup language	MRECS	modular rocket control software
IMAGE	Imager for Magnetopause-to-Aurora Global Exploration	MSA	Marshall sprayable ablator
IMSL	International Math and Statistics Library	MSAD	Microgravity Science and Applications Division
IPTD	integrated propulsion technology demonstrator	MSG	microgravity science glovebox
$I_{sp}$	specific impulse	MSM	magnetospheric specification model
ISS	International Space Station	MSU	microwave sounding unit
ISTP	International Solar Terrestrial Physics program	MSV	mechanisms of solar variability
ISWE	international space welding experiment	MTF	modulation transfer function
IVHM	integrated vehicle health management	MTPE	Mission to Planet Earth
JANNAF	Joint Army-Navy-NASA-Air Force	NAFCOM	NASA Air Force cost model
JPL	Jet Propulsion Laboratory	NBS	Neutral Buoyancy Simulator
JSC	Johnson Space Center	NDE	nondestructive evaluation
KB	knowledge base	NGST	Next Generation Space Telescope
KSC	Kennedy Space Center	NLO	nonlinear optical
LAD	liquid acquisition device	NOAA	National Oceanic and Atmospheric Association
LaRC	Langley Research Center	NRA	NASA Research Announcement
LCF	Laser Characterization Facility	NTC	NASA Teleconference Center
LDSP	large-scale digital signal processing	NTR	nuclear thermal rocket
LEEIF	low-energy electron and ion facility	OBCS	on-board computer system
LEO	low-Earth orbit	OBVCU	on-board bias and vent control unit
LIS	lightening imaging sensor	OEA	operations execution assistant
LO	local oscillator	OISPS	operator interactive signal processing system
LOI	lunar orbit insertion	OLMSA	Office of Life and Microgravity Science and Applications
LOM	laminated object manufacturing	OMS	orbital maneuvering system
LOPC	laser optical particle counter	OPAD	optical plume anomaly detection
LOS	line of sight	ORNL	Oak Ridge National Laboratory
LWCS	longwave clear-sky radiation	OSSE	observing system simulation experiments
MAC	modal assurance criteria	OTD	Optical Transient Detector
MACAWS	multicenter airborne coherent atmospheric wind sensor	OVRO	Owens Valley Radio Observatory
maglev	magnetically levitated	PCAM	protein crystallization apparatus for microgravity
MAMS	multispectral atmospheric mapping sensor	PCTC	Payload Crew Training Complex
MAPO	magnetically actuated propellant orientation	PDA	polydiacetylene
MET	mission elapsed time	PDE	pulse detonation engine
MGA	multigraph architecture	PDT	product development team
MGM	mechanics of granular materials	PEC	Productivity Enhancement Complex
MHD	magnetohydrodynamics	PEEK	polyetherether ketone
MHTB	multipurpose hydrogen test-bed	PGSC	payload general support computer
MIC	microprocessor	PIVI	pinhole ion velocity imager
MLI	multilayer insulation	POCC	Payload Operations Control Center
		PPPOA	product and process plan of action

PSI	phase shifting interferometry	STUSTD	solar thermal upper stage demonstrator
PSU	Penn State University	SVD	singular value decomposition
PSW	physical split window	SXT	Soft X-Ray Telescope
PTA	propulsion test article	TCM	thermal conditioning module
PVT	physical vapor transport	TCS	thermal control system
PWI	plasma wave instrument	TEI	trans-Earth injection
PWR	power	THM	traveling heater method
R&D	Research and Development	TLI	trans-lunar injection
RBCC	rocket-based combined cycle	TLM	telemetry
RBF	radial basis function	TLP	tension leg platforms
RCS	reaction control system	TMA	technology mirror assembly
RIMS	retarding ion mass spectrometer	TOMS	total ozone mapping spectrometer
RLV	Reusable Launch Vehicle	TPS	thermal protection system
RMF	rotating magnetic field	TRAYS	thermal radiation analysis system
RMS	remote manipulator system	TRN	thermal response number
ROSETA	range over standard deviation experimental trend analysis	TSS-1R	Tethered Satellite System Reflight
RP	rapid prototyping	TTB	technology test-bed
RPI	radio plasma imager	TTO	Technology Transfer Office
RRTT	revolutionary reusable technology turbopump	TVS	thermodynamic vent system
RSM	reference stress method	TWI	The Welding Institute
RSRM	reusable solid rocket motor	UAH	University of Alabama in Huntsville
SAIC	Science Applications International Corporation	USBI	United Space Boosters Inc.
SBIR	Small Business Innovative Research	USML	United States Microgravity Laboratory
SDT	Science Definition Team	USMP	United States Microgravity Payload
SEDS	small expendable deployer system	UV	ultraviolet
SEE	Space Environments and Effects program	UVI	ultraviolet image
SIF	sensor interface	VEDM	volume elements damage
SIFTER	scintillation fiber	VOF	volume of fluid
SINDA	systems improved numerical differencing analyzer	VPPA	variable polarity plasma
SLD	semiconductor laser diodes	VR	virtual reality
SPIE	Society for Photo-optical Instrumentation Engineers	VSLM	virtual Spacelab module
SRB	solid rocket booster	WIC	wideband imaging camera
SRCF	X-Ray Calibration Facility	XTM	x-ray transmission microscope
SSC	Stennis Space Center		
SSE	shooting star experiment		
SSFF	Space Station furnace facility		
SSME	Space Shuttle Main Engine		
SST	sea-surface temperature		
SSTO	single-stage-to-orbit		
STEPS	Station-tethered express payload system		
STICS	scanning thermal ion composition spectrometer		
STTR	Small Business Technology Transfer		